

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF ORTHOPAEDIC SURGERY
DEPARTMENT OF INTERNAL MEDICINE
MEDICAL SCHOOL AND COLLEGE OF ENGINEERING
DEPARTMENT OF BIOMEDICAL ENGINEERING

Tristan Maerz, Ph.D., assistant professor of orthopaedic surgery, Department of Orthopaedic Surgery, assistant professor of internal medicine, Department of Internal Medicine, Medical School, and assistant professor of biomedical engineering, Department of Biomedical Engineering, Medical School and College of Engineering, is recommended for promotion to associate professor of orthopaedic surgery, with tenure, Department of Orthopaedic Surgery, associate professor of internal medicine, without tenure, Department of Internal Medicine, Medical School, and associate professor of biomedical engineering, without tenure, Department of Biomedical Engineering, Medical School and College of Engineering.

Academic Degrees:

Ph.D.	2015	Wayne State University, Detroit, MI
M.S.	2011	Wayne State University, Detroit, MI
B.S.	2009	Lawrence Technological University, Southfield, MI

Professional Record:

2023-present	Assistant Professor, Division of Rheumatology, Department of Internal Medicine, University of Michigan, Ann Arbor, MI
2019-present	Assistant Professor, Department of Biomedical Engineering, University of Michigan, Ann Arbor, MI
2019-present	Assistant Professor, Department of Orthopaedic Surgery, University of Michigan, Ann Arbor, MI
2017-2019	Research Investigator, Department of Orthopaedic Surgery, University of Michigan, Ann Arbor, MI
2015-2017	Assistant Professor, Department of Orthopaedic Surgery, Oakland University School of Medicine, Rochester, MI

Summary of Evaluation:

Teaching: Dr. Maerz contributes to teaching both in the departments of orthopedic surgery and biomedical engineering by mentoring orthopedic residents, medical, graduate, and undergraduate students. His learners include post-doctoral fellows, medical students, graduate students, and undergraduate students. His students have received prestigious post-doctoral fellowships, and several awards indicative of academic excellence, such as the National Science Foundation (NSF) Graduate Research Fellowship, the Rackham Pre-doctoral Fellowship, the Edmonson Scholarship, and the John Bean Fellowship for Academic Excellence. Didactically he has been a section lecturer of BME 419/519 in the Department of Biomedical Engineering and has provided basic science lectures in the Department of Orthopedic Surgery.

Research: Dr. Maerz is a biomedical engineer whose scientific work is focused on deepening the scientific understanding of post-traumatic and inflammatory arthritis and the discovery of potential treatments for arthritis and targets for cartilage repair. He has been very successful in obtaining extramural funding support from the National Institutes of Health (NIH), the Department of Defense, and foundations. His current funding as a multi-principal investigator or principal investigator totals more than \$13M. Dr. Maerz has authored 61 peer reviewed manuscripts in high-impact journals in his field such as the *Journal of Clinical Investigation*, *Annals of Surgery*, and *Journal of Orthopaedic Research*. He presents at the national and international levels including in Canada, Germany, and Portugal. His work has garnered attention as evidenced by being awarded the Scientific Network Award 2022 from the Orthopedic Research Society and the Best Paper Award, Spine Section at the 2016 ORS Annual Meeting.

Recent and Significant Publications:

- Knights AJ, Farrell EC, Ellis OM, Lammlin L, Junginger LM, Rzczycki PM, Bergman RF, Pervez R, Cruz M, Knight E, Farmer D, Samani AA, Wu CL, Hankenson KD, Maerz T, “Synovial fibroblasts assume distinct functional identities and secrete R-spondin 2 in osteoarthritis,” *Ann Rheum Dis*. 2023 Feb;82(2):272-282. doi: 10.1136/ard-2022-222773. Epub 2022 Sep 29. PMID: 36175067; PMCID: PMC9972892.
- Tsou PS, Lu C, Gurrea-Rubio M, Muraoka S, Campbell PL, Wu Q, Model EN, Lind ME, Vichaikul S, Mattichak MN, Brodie WD, Hervoso JL, Ory S, Amarista CI, Pervez R, Junginger L, Ali M, Hodish G, O’Mara MM, Ruth JH, Robida AM, Alt AJ, Zhang C, Urquhart AG, Lawton JN, Chung KC, Maerz T, Saunders TL, Groppi VE, Fox DA, Amin MA, “Soluble CD13 induces inflammatory arthritis by activating the bradykinin receptor B1,” *J Clin Invest*. 2022 Jun 1;132(11):e151827. PMID: 35439173.
- Rzczycki P, Rasner C, Lammlin L, Junginger L, Goldman S, Bergman R, Redding S, Knights AJ, Elliott M, Maerz T, “Cannabinoid Receptor Type 2 is Upregulated in Synovium following Joint Injury and Mediates Anti-Inflammatory Effects in Synovial Fibroblasts and Macrophages,” *Osteoarthritis Cartilage*. 2021 Dec; 29(12). 1720-173. PMID: 34537380.
- Maerz T, Nepple JJ, Bedi A, Zaltz I, Belzile E, Beaulieu P, Sink E, ANCHOR Study Group, Clohisy J, “Sex Differences in Clinical Outcome after Femoroacetabular Impingement Surgery,” *J Bone Joint Surg Am*. 2021 Mar 3;103(5):415-423. PMID: 33439607.
- Newton MD, Junginger L, Maerz T, “Automated MicroCT-based bone and articular cartilage analysis using iterative shape averaging and atlas-based registration,” *Bone*. 2020 Aug;137:115417. PMID: 32416288.

Service: Dr. Maerz performs service at all levels. Internationally, he serves on the Natural Sciences and Engineering Research Council of Canada study section and is a member of the Membership Committee for the Orthopaedic Research Society. Nationally, he is an ad hoc reviewer for three study sections with the Department of Veterans Affairs, the NIH, and the Orthopaedic Research and Education Foundation. He was a special issue editor for *Osteoarthritis and Cartilage* and is an ad hoc reviewer for numerous journals including *JCI Insight*, *PLoS One*, and *Bone*. He reviews abstracts for the Orthopaedic Research Society. Regionally, Dr. Maerz is a member of the Lawrence Technological University Biomedical Engineering Advisory Board. Institutionally, he is a member of several committees including the Biosciences Initiative Faculty Search Committee and the departmental liaison for the Medical School Space Committee, and has served on many dissertation committees.

External Reviewers:

Reviewer A: “Collectively, Dr. Maerz’s contributions have resulted in a h-index of 22 so far, with over 1,400 citations (GoogleScholar Sept. 2023), which is excellent for his stage of career. Importantly, his yearly citations increased from about 170 in 2019 and 2020 to 221 in 2022 and already almost 250 in the current year, with more than 3 months to go. This shows a steep upward [sic] trajectory in citations, in line with his increasing productivity. These numbers also provide a direct response to the question asked here – the impact and significance of his work is indeed very high, as judged by the attention received from his peers across the world.”

Reviewer B: “Dr. Maerz has proven himself quite adept at obtaining important extramural funding. He currently serves as PI or as MPI on one R01 and three R21’s from NIAMS, as well as site PI on a large UC2 HEAL grant, and he recently completed a Catalyst Award from the Falk Medical Research Trust and a DoD Discovery Award. This productivity is excellent for anyone and should be appreciated as outstanding for a young investigator... Dr. Maerz consistently publishes in the most important journals in his field as well as in the important general journals.”

Reviewer C: “As I mentioned that Tristan’s scientific expertise [sic] and leadership in the field of transcriptomics and OA are being recognized internationally. He has been invited to Guest Edit a special issue for Osteoarthritis and Cartilage Journal that focuses on Sex and Gender in osteoarthritis research. He has also been invited to present his work nationally and internationally over 25 times and sits on various research committees and funding agencies locally, nationally, and internationally.”

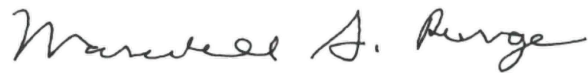
Reviewer D: “In terms of service, Tristan is serving on an ORS committee and several institutional committees at Michigan. He has served on NIH study sections as well as for OREF, the VA, and a Canadian research council. He is also a very active reviewer for multiple journals. His training record is also strong having served on 9 thesis committees including three as a primary mentor.”

Reviewer E: “One of Tristan’s major strengths is his collaborative abilities. As already mentioned, he and his research team have developed new and useful techniques for the field... I have no doubts that Tristan will continue to thrive in his independent and collaborative research endeavors. His positive and effective approaches toward establishing meaningful collaborations as well as mentoring the next generation of scientists will no doubt be significant contributing factors toward his longevity in the field.”

Reviewer F: “Dr. Maerz is a prolific reviewer, speaker, and educator. He has been invited to lecture on his research both nationally and internationally, with talks primarily on the role of synovial cells in osteoarthritis development. I see him frequently on the program committees or serving as the moderator for sessions at our national meetings. His questions at these meetings are characteristically insightful and reflect his deep understanding of the issues in PTOA development. We will continue to try to attract his input for the Gordon Conferences, the Orthopaedic Research Society meetings, and other orthopaedic research meetings.”

Summary of Recommendation:

Dr. Tristan Maerz is recognized for his research both nationally and internationally and is a productive, well-funded researcher focusing on better understanding and treating arthritis. Dr. Maerz has been an excellent educator and mentor for orthopedic residents and future musculoskeletal scientists, is a respected scientist, and is a solid citizen. We are pleased to recommend Tristan Maerz, Ph.D. for promotion to associate professor of orthopaedic surgery, with tenure, Department of Orthopaedic Surgery, associate professor of internal medicine, without tenure, Department of Internal Medicine, Medical School, and associate professor of biomedical engineering, without tenure, Department of Biomedical Engineering, Medical School and College of Engineering.



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May 2024